

In the claims

Replace claims 9, 30, 33 and 45 with the claims below of the same number, respectively.

1 9. A tip having
2 a dissipative material for use in wire bonding machines for connecting leads on
3 integrated circuit bonding pads, wherein
4 said dissipative material is a doped semiconductor which is titanium
5 nitride carbide, has a resistance low enough to prevent a discharge of charge to a
6 device being bonded and high enough to avoid current flow large enough to
7 damage said device being bonded, and is formed on a conducting core of cobalt
8 bonded tungsten carbide.

1 30. A method of manufacturing a dissipative bonding tip comprising:
2 forming a dissipative material having at least a doped semiconductor that is
3 titanium nitride carbide, as a bonding tip that has a resistance low enough to prevent a
4 discharge of charge to a device being bonded and high enough to avoid current flow large
5 enough to damage said device being bonded,
6 wherein said step of forming includes forming said doped semiconductor on a
7 conducting core of cobalt bonded tungsten carbide.

1 33. The method of claim 19 wherein the step of forming comprises:
2 forming a solid structure; and

3 treating the solid structure by ion implantation, vapor deposition, chemical vapor
4 deposition, physical deposition, electro-plating deposition, or neutron bombardment to
5 produce a surface layer.

1 45. A method of using a bonding tip, comprising:
2 bonding a device using a bonding tip made with a dissipative material that is a
3 doped semiconductor of titanium nitride carbide and has a resistance low enough to
4 prevent a discharge of charge to said device and high enough to avoid current flow large
5 enough to damage said device, wherein said dissipative material is formed on a
6 conducting core of cobalt bonded tungsten carbide.

Add the following new claims

1 46. A device comprising:
2 a bonding tip having a dissipative material
3 that is positioned to come in contact with a device being bonded during bonding,
4 in which a current is allowed to flow that is produced by static charge generated
5 during bonding, and
6 that has a resistance low enough to prevent a discharge of charge to a device
7 being bonded and high enough so that the current flow is not large enough to damage said
8 device being bonded.

1 47. The device of claim 46 wherein the current flow allowed is no more than 3
2 millamps.

1 48. A method of manufacturing a dissipative bonding tip comprising:
2 forming a bonding tip having a dissipative material
3 that is positioned to come in contact with a device being bonded during bonding,
4 in which a current is allowed to flow that is produced by static charge generated
5 during bonding, and
6 that has a resistance low enough to prevent a discharge of charge to a device
7 being bonded and high enough so that the current flow is not large enough to damage said
8 device being bonded.

1 49. The method of claim 46 wherein the current flow allowed is no more than 3
2 millamps.

1 50. A method of bonding using a dissipative bonding tip comprising:
2 providing a bonding tip having a dissipative material that has a resistance low
3 enough to prevent a discharge of charge to a device being bonded and high enough so
4 that the current flow is not large enough to damage a device being bonded,
5 positioning the bonding tip so that the dissipative material electrically couples
6 with the device being bonded during bonding,
7 forming a bond on the device being bonded, and
8 allowing a current flow that is produced by static charge generated by the
9 bonding.

1 51. The method of claim 46 wherein the current flow allowed is no more than 3
2 millamps.